



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,808	05/04/2001	Jerry Z. Shan	10007932-1	8917

7590 05/11/2005
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

JARRETT, SCOTT L

ART UNIT	PAPER NUMBER
----------	--------------

3623

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,808

Applicant(s)

SHAN, JERRY Z.

Examiner

Scott L. Jarrett

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 14 the disclosure does not clearly define the phrase "system." A system as claimed could contain a plurality of elements and without further definition of the system elements the phrase as claimed vague and indefinite.

Claim Rejections - 35 USC § 101

3. Claims 1-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result.

Regarding Claims 1-9, claims 1-9 only recite an abstract idea. The recited method for processing test data that is relevant to specific behavior of visitors does not apply, involve, or use the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not within the technological art as explained above claims 1-9 are deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble.

Further mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process. In the present case, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation of the terms "network accessible site", "communications network" and "website". Therefore, the terms discussed are taken to merely recite a field of use and/or nominal recitation of technology.

Regarding Claims 10-13, claims 10-13 only recite an abstract idea. The recited method for processing test data that is relevant to specific behavior of visitors does not apply, involve, or use the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not within the technological art as explained above claims 10-13 are deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of

manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble.

Regarding Claims 14-19, claims 14-19 only recite an abstract idea. The recited system for processing test data that is relevant to specific behavior of visitors does not apply, involve, or use the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. The claimed invention, as a whole, is not within the technological art as explained above claims 14-19 are deemed to be directed to non-statutory subject matter.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble.

Further mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process. In the present case, none of the recited steps are directed to anything in the technological arts as explained above with the exception of the recitation of the term "website". Therefore, the term discussed is taken to merely recite a field of use and/or nominal recitation of technology.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura et al., U.S. Patent No. 6,591,248.

Regarding Claim 1 Nakamura et al. teach a method and system for selecting an online advertisement wherein the advertisement selection process estimates the click rate (conversion rate, number of users that click the ad banner – the click being the desired user response/act) based on user profile information (historical and current/real time) collected, monitored and analyzed by the system and then utilizes predictive modeling with probability distributions such that the total conversion rate (click rate) for each advertisement is maximized (reaches a specified condition/target, maximizes an objective function) utilizing well known optimization problem solution techniques (Abstract; Figures 1 and 2 as shown below).

More specifically Nakamura et al. teach a method for processing data relevant to the specific behavior of online users (visitors of at least one network accessible site) comprising:

Art Unit: 3623

- receiving a plurality of information (click history, advertisement attributes, etc.) related to estimating (anticipating, predicting, modeling, etc.) the anticipated (expected, predicted, etc.) behavior of online users (Column 4, Lines 40-43; Column 5, Lines 31-55; Figure 1 as shown below);

- monitoring the actual online user behavior (click history; Figure 1, Element 146); and

- utilizing (employing) the historical and actual online user behavior information (data) and a Bayesian estimation approach ("Gittins Index is known as a ramification of the theorem of Bayes."; Column 1, Lines 51-61; Column 3, Lines 14-18; "Gittins index is an optimum method for maximizing the number of click times...", Column 12, Lines 3-9; Figure 7) to update/predict future (subsequent) online user behavior (predictive modeling; e.g. estimated click rate for each advertisement).

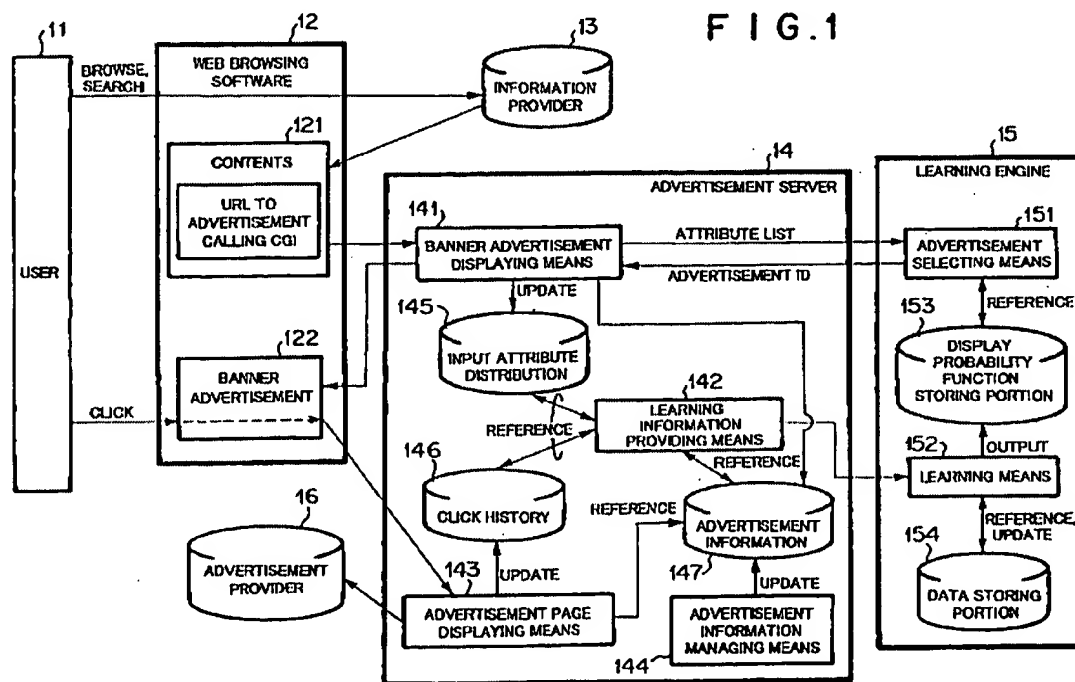
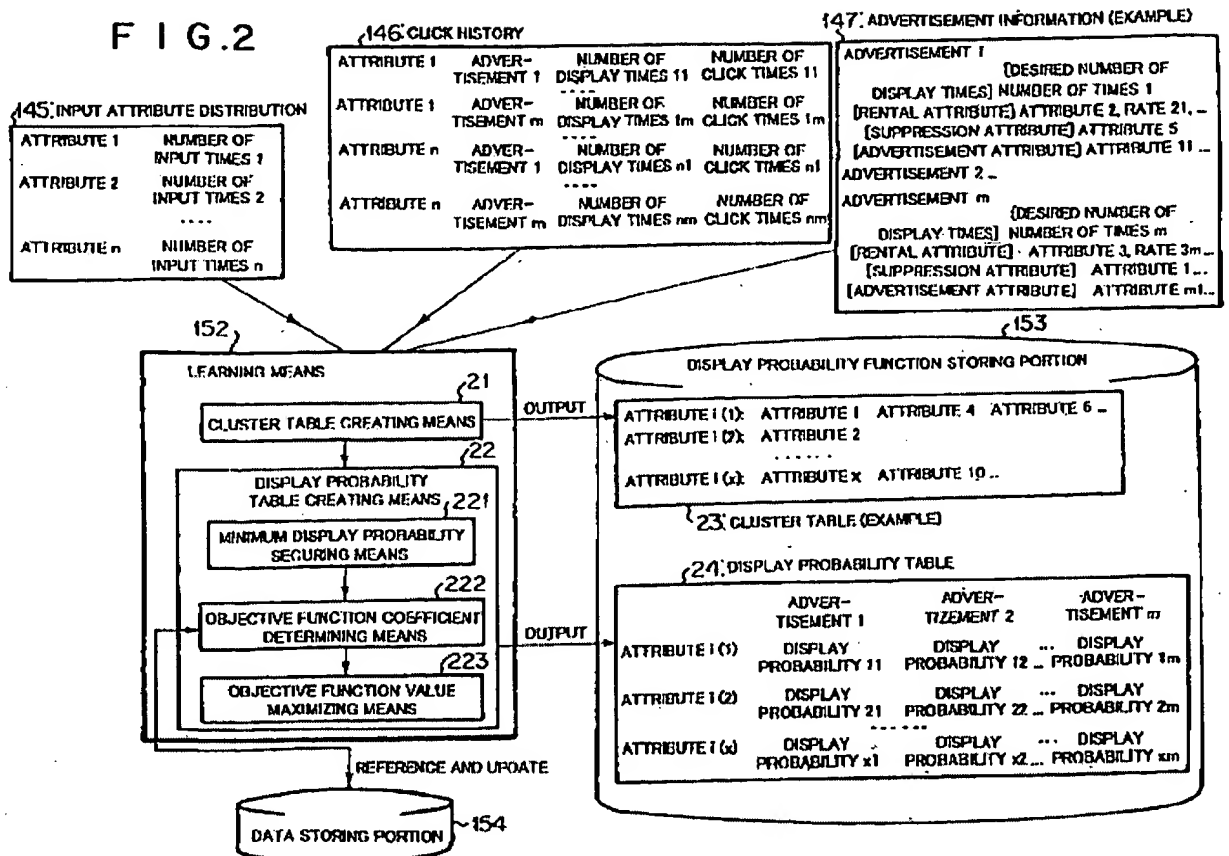


FIG. 2



Regarding Claim 2 Nakamura et al. teach a method and system for processing online user information wherein receiving the online user information includes accessing (utilizing) a probability distribution characterization (model) of the anticipated online user behavior which includes/utilizes confidence parameters (accuracy level, accuracy estimate; Column 2, Lines 50-65; "...while p is being varied with a particular accuracy...", Column 12, Lines 52-56).

Regarding Claim 3 Nakamura et al. teach a method and system for processing online user information wherein the online user behavior information (pre-test, historical,

Art Unit: 3623

estimated, actual, etc.) relates to whether or not online users are converted (act as desired; click rate, click times, click-throughs, advertising effectiveness, etc.; Column 2, Lines 13-65; Column 3, Lines 4-12; Figure 5, Element 52; Figure 56, Element 62).

Regarding Claim 4 Nakamura et al. teach a method and system for processing online user information wherein the network accessible site is a web site available on the Internet (Column 4, Lines 6-8; Figure 1, Element 11 as shown above).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al., U.S. Patent No. 6,591,248 as applied to claims 1-4 above, and further in view of official notice.

Regarding Claim 5 Nakamura et al. teach a method and system for processing online user information wherein the system monitors a plurality of online user behavior to predicatively model conversion rates thereby enabling the system to update the estimations based on actual (current) user actions and provide updated (adaptive) estimations of future online user behavior as discussed above.

While the utilization of statistical sampling techniques is old and well known in the art Nakamura et al. does not teach that the method and system for processing online user information utilizes a statistical sampling technique as claimed.

Official notice is taken that the utilization of statistical sampling techniques in business decision making is old and very well known for enabling the determination of a population's characteristics by directly observing only a portion or sample of the

Art Unit: 3623

population and provides a more economical and/or efficient means for determining such population characteristics (e.g. not enough time to analyze entire population, population is too large to analyze, population is inaccessible, etc.).

Further it is noted that extrapolating from the sample population to the original population involves the consideration of several factors such as the sampling variability, sampling method, sampling bias and sampling size. Sampling size in particular requires making tradeoffs between a plurality of factors such as the chances of making an error, the cost/effort of sampling and the like (i.e. error and reliability of the sample size are core components of every statistical sampling method/technique).

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website; the resultant system being more capable of efficiently processing (analyzing) large amounts of data/information.

Regarding Claim 6 Nakamura et al. does not teach that the method and system for processing online user information utilizes a statistical sampling technique as discussed above.

Official notice is taken that there exists a plurality of well known and widely used methods and techniques for determining the required sample size for a particular statistical modeling technique and that such sample size determination methods are critical to the usefulness of a statistical sampling technique. More specifically a statistical sampling technique that does not provide for the determination of a required (targeted) sample size necessary to meet the accuracy, reliability or other like goals would be impractical to use as one would be unable to determine when the statistical sample/model was representative of the population/information being modeled/analyzed.

Further official notice is taken that there exists a plurality of statistical sampling and modeling techniques including negative (inverse) binomial sampling that are used for modeling rates of occurrence (conversion rate) and that binomial techniques are for models in which there are only two possible outcomes (e.g. converted or not converted; click or not clicked).

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques for modeling rates of occurrence such as negative (inverse) binomial sampling as part of its processing of data relevant to specific behavior of visitors of at least one website and further that the statistical sampling techniques method would have an associated method/technique for determining the

Art Unit: 3623

required sample size which takes into account target metrics such as reliability and/or accuracy; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and more accurately characterizing the population of interest.

Regarding Claim 7 Nakamura et al. teach does not teach that the method and system for processing online user information utilizes a statistical sampling technique as discussed above.

Official notice is taken that the utilization of systematic sampling, a methodology for sampling in which units are selected from the population at a regular interval, also known as random sampling, is old and very well known.

Further official notice is taken that methods for determining the required sample size in order to achieve a targeted/required accuracy are old and very well known in the art as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website; the resultant system being more capable of efficiently processing (analyzing) large amounts of data.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from specifically utilizing systematic sampling due to the relative simplicity of implementing random sampling.

Regarding Claim 8 Nakamura et al. teach a method and system for processing online user information wherein the system utilizes historical and current information to estimate (predict) future online user behavior as discussed above.

Nakamura et al. does not teach that the method and system for processing online user information utilizes a statistical sampling technique or subsequently that the sample size is based on a required target confidence level (accuracy level, reliability, confidence, etc.).

Official notice is taken that the utilization of statistical sampling and modeling techniques and the subsequent determination of the required sample size based on a plurality of factors including but not limited to a target confidence level is old and very well known in the art. Specifically the accuracy (reliability, confidence level) of the sample reflects the samples ability to be utilized as the basis for extrapolating sample population characteristics to the general population.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website and that those statistical sampling techniques provide the ability to determine the required sample size necessary to achieve a targeted accuracy level; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrences such as the negative (inverse) binomial sampling method.

Regarding Claim 9 Nakamura et al. teach a method and system for processing online user information wherein a Bayesian approach is used to calculate a predicted conversion rate of a desired online behavior.

Nakamura et al. does not teach the utilization of a negative (inverse) binomial statistical sampling technique as discussed above.

Official notice is taken that the utilization of statistical sampling and modeling techniques, specifically negative binomial statistical sampling techniques are old and well known as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrences such as the negative (inverse) binomial sampling method.

Regarding Claim 10 Nakamura et al. teach a method of processing data that is relevant to specific behavior of online users (visitors) wherein the system detects (monitors, tracks, etc.) online user conversions wherein the conversions are specific interactions/actions/behaviors as discussed above.

Nakamura et al. does not teach the utilization of a negative (inverse) binomial statistical sampling technique or the subsequent determination of a required sample size based on a targeted confidence level as discussed above.

Official notice is taken that the utilization of statistical sampling and modeling techniques, specifically negative binomial statistical sampling techniques are old and well known as discussed above.

Official notice is taken that the determination of a required sample size for a statistical sampling method, such as negative (inverse) binomial sampling, based on a targeted confidence level is old and well known as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website and that those statistical sampling techniques provide the ability to determine the required sample size necessary to achieve a targeted accuracy level; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught

Art Unit: 3623

by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling method.

Regarding Claim 11 Nakamura et al. teach a method and system for processing online user information wherein the system utilizes an Bayesian modeling to solve an optimization problem wherein the system utilizes a target number of conversions and an anticipated (predicted) number of online users (visitors) to reach the target number of conversions wherein the anticipated number of users and the estimate of the conversion rate is the target number of conversions divided by the anticipated number of online users/visitors (Column 13, Lines 8-65; Figure 7; Equations 16b-16e as shown below).

$$R(a, b, p) = \frac{a}{(a+b)(1-g)} \quad (16b)$$

$$I(a, b) = \frac{a}{a+b} \quad (16c)$$

$$R(a, b, p) = \frac{a + \mu(x, j)}{(a+b+1)(1-g)} \quad (16d)$$

$$I(a, b) = \frac{a + \mu(x, j)}{a+b+1} \quad (16e)$$

Nakamura et al. does not teach the utilization of a statistical sampling technique (i.e. that the anticipated number of users, user response, has a negative (inverse) binomial distribution) as discussed above.

Art Unit: 3623

Official notice is taken that the utilization of statistical sampling and modeling techniques, specifically negative binomial statistical sampling techniques are old and well known as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling method; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Regarding Claim 12 Nakamura et al. teach method and system for processing online user information wherein detecting online user conversion includes monitoring online user activity/interaction with a website as discussed above.

Regarding Claim 13 Nakamura et al. teach a method and system for processing online user information wherein the measure of confidence is a measure of the accuracy of the conversion rate estimate (accuracy level, accuracy estimate; Column 2, Lines 50-65; "...while p is being varied with a particular accuracy...", Column 12 Lines 52-56).

Regarding Claim 14 Nakamura et al. teach a system for processing online user behavioral data/information comprising the determination and updating of conversion-related estimates based on historical and current information/data wherein the updates to the conversion-related estimates are in response to monitored online user behavior as discussed above.

Nakamura et al. does not teach the utilization of statistical sampling techniques or subsequently the determination or adjustment of the required sample size while maintaining a target confidence level as claimed.

Official notice is taken that the utilization of statistical sampling and modeling techniques and the subsequent determination of the required sample size based on a plurality of factors including but not limited to a target confidence level is old and very well known in the art. Specifically the accuracy (reliability, confidence level) of the sample reflects the samples ability to be utilized as the basis for extrapolating sample population characteristics to the general population.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website and that those statistical sampling techniques

Art Unit: 3623

provide the ability to determine the required sample size necessary to achieve a targeted accuracy level; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling method.

Regarding Claim 15 Nakamura et al. does not teach that the method and system for processing online user information and generating conversion related estimates utilizes statistical sampling as discussed above.

Official notice is taken that the utilization of statistical sampling techniques such as negative (inverse) binomial sampling and systematic sampling to estimate/predict/analyze rates of occurrences wherein subpopulations (samples, segments and the like) of the general population are sampled in order to extrapolate characteristics from the subpopulation to the population at large is old and well known in the art as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by

Art Unit: 3623

Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website and that those statistical sampling techniques provide the ability to determine the required sample size necessary to achieve a targeted accuracy level; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling and/or systematic sampling methods.

Regarding Claim 16 Nakamura et al. does not teach that the method and system for processing online user information and generating conversion related estimates utilizes statistically sampling as discussed above.

Further Nakamura et al. does not expressly subsequently teach that the conversion-related estimates are point estimates of conversion rates generate by cooperating statistical models.

Official notice is taken that the utilization of statistical sampling techniques such as negative (inverse) binomial sampling and systematic sampling to

Art Unit: 3623

estimate/predict/analyze rates of occurrences wherein subpopulations (samples, segments and the like) of the general population are sampled in order to extrapolate characteristics from the subpopulation to the population at large is old and well known in the art as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website and that those statistical sampling techniques provide the ability to determine the required sample size necessary to achieve a targeted accuracy level; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling and/or systematic sampling methods.

Official notice is taken that the utilization of point estimates, an estimate of a population parameter that is a single numerical value of online user conversion; (single

Art Unit: 3623

value; e.g. average, mean, etc.) and to use several statistical models in a cooperative fashion to produce a more accurate characterization of the population are old and well known in the art.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing point estimates thereby providing a single value for the conversion-related estimates generated by the cooperating statistical sampling techniques; the resultant system providing a conversion estimate generated by two "independent" samples of the population thereby providing a more accurate estimate (i.e. the greater and/or more diverse the sample size the more representative the sample).

Regarding Claim 17 Nakamura et al. teach a method and system for processing online user information further comprising the monitoring of online users for the purpose of detecting conversions ("click rate", Abstract; Column 2, Lines 13-20).

Regarding Claim 18 Nakamura et al. teach a method and system for processing online user information wherein the system utilizes Bayesian estimation ("Gittins Index is known as a ramification of the theorem of Bayes."; Column 1, Lines 51-61; Column 3, Lines 14-18; "Gittins index is an optimum method for maximizing the number of click

Art Unit: 3623

times...", Column 12, Lines 3-9; Figure 7) to update/predict future (subsequent) online user behavior (predictive modeling; e.g. estimated click rate for each advertisement).

Regarding Claim 19 Nakamura et al. teach a method and system for processing online user information wherein a Bayesian approach is used to calculate a predicted conversion rate of a desired online behavior.

Nakamura et al. does not teach the utilization of a negative (inverse) binomial statistical sampling technique as discussed above.

Official notice is taken that the utilization of statistical sampling and modeling techniques, specifically negative binomial statistical sampling techniques are old and well known as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing any of a plurality of well known statistical sampling techniques as part of its processing of data relevant to specific behavior of visitors of at least one website; the resultant system being more capable of efficiently processing (analyzing) large amounts of data and for more accurately characterizing the general population from the sampled population.

Additionally it would have been obvious to one skilled in the art at the time of the invention that the method and system for processing online user information as taught by Nakamura et al. would have benefited from utilizing a plurality of statistical sampling for modeling rates of occurrence such as the negative (inverse) binomial sampling method.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Gerace, Thomas A., U.S. Patent No. 5,848,396, teaches a method and system for processing data relevant to specific behavior of visitors of at least one network accessible site (Internet web site) wherein the system monitors (profiling of a computer user) actual online users' behavior and utilizes the conversion (clickthroughs, hits, purchases, etc.) rate to determine which advertisement should be shown to online users.

- d'Eon et al., U.S. Patent No. 6,006,197, teach a method and system for processing data relevant to specific behavior of visitors of at least one network accessible site wherein the system monitors conversion rates (correlates the number of ad impressions with post-impression activity) thereby enabling the system to assess the effectiveness of Internet marketing campaigns.

- Lazarus et al., U.S. Patent No. 6,134,532, teach a method and system for processing data relevant to specific behavior of visitors of at least one network accessible site wherein the system utilizes well known user profiling and predictive modeling techniques to monitor and predict (estimate) user behavior, including conversions (clickthrough, purchases, response rates, etc.) in real time (dynamically, adaptively). Lazarus et al. further teach that the system and method determines and utilizes a targeted impression count (the targeted impression count (exposure rate, frequency, etc.) being typically selected to achieve a particular conversion rate).

- Thearling, Kurt, U.S. Patent No. 6,240,411, teach a method a system for processing data relevant to specific behavior of visitors of at least one network accessible site wherein the system integrates well known campaign management (e.g. statistical or mathematical equations for determining a probability would respond to an offer, i.e. conversion rate) and data mining techniques, tools and methods.

- Tamayo et al., U.S. Patent No. 6,836,773, teach a method a system for processing data relevant to specific behavior of visitors of at least one network accessible site comprising user profiling (clickstream, purchases, etc.), predictive modeling and data mining wherein the data mining sub-system can utilize any of a plurality of commercially available data mining tools each of which support a plurality of well known learning technologies including but not limited to Bayes modeling.

- Herz et al., U.S. Patent Publication No. 2001/0014868, teach a method and system for processing data relevant to specific behavior of visitors of at least one network accessible site wherein the system utilizes user profiling and predictive modeling to predict visitor conversion rates, among other metrics.

- Merriman et al., U.S. Patent Publication No. 2002/0099600, teach a method and system for processing data relevant to specific behavior of visitors of at least one network accessible site wherein the system utilizes user profiling, predictive modeling, and statistical sampling to maximize revenue (profits) for direct response advertising (pay for performance, cost per action, conversion). Merriman et al. further teaches that the online advertising management system estimates the performance of

Art Unit: 3623

advertisements, selects, displays/delivers, and monitors user actions in order to update the predictive model.

- Patterson, Pfafferberger, Statistical methods for business and economics, teaches a plurality of well-known and widely utilized statistical methods including but not limited to the determination of the optimal sample size for binomial sampling.

- Matloff, Norman S., Probability Modeling and Computer Programming, teaches old and very well known probability, statistical and sampling concepts for decision making including but not limited to the use of negative binomial sampling/distribution for rate of occurrence (conversion rate) determinations.

- Peacock, Peter R., Data mining in marketing, teaches the well known and wide spread use of data mining wherein data mining utilizes a plurality of probability sampling, predictive modeling and machine learning tools, techniques and methods to efficiently handle the vast amount of data being "mined" (i.e. reducing the need to analyze every piece of information while still yielding accurate results/predictions). Peacock further teaches that Bayesian statistical methods are utilized to assess hypotheses (e.g. expected conversion rate).

- Greening, Dan R., Tracking users, teaches the well known monitoring of online users for the purposes of tracking such things as the effectiveness of promotions in real time thereby enabling the system to make adjustments to the promotion instantly (campaign conversion, conversion rate, etc.). Greening further teaches the availability of a plurality of commercially available systems for processing data relevant to specific behavior of visitors of at least one network accessible site.

- Srivastava, Jaideep et al., Web Usage Mining, teach a method and system for processing of data that is relevant to specific behavior of visitors of at least one network accessible site comprising the three phases preprocessing, pattern discovery and pattern analysis. Srivastava further teaches that the web usage mining system and method utilizes a plurality of well known user profiling, statistical analysis modeling techniques including but not limited to Bayesian models to analyze and predict online user behavior thereby enabling the system to provide personalization, business intelligence and usage characterization.

- Gerard, Broussard, How advertising frequency can work to build advertising effectiveness, teaches that there exists a plurality of metrics for measuring (explaining) the effectiveness of web advertisements (response rates, conversion rates, clicks).

- AdKnowledge web pages teaches a commercially available system for processing data that is relevant to specific behavior of visitors of at least one network accessible site wherein the system utilizes user profiling (e.g "track any number of conversion events"), predictive modeling and statistical analysis techniques and tools to measure the return on investment (ROI, conversion rate, success, effectiveness, etc.) of online advertising.

- Lapin, Lawrence, Statistics for Modern Business Decisions, teaches a plurality of well known and widely utilized methods, techniques and tools for utilizing statistics in business decision making including but not limited to statistical sampling, binomial probability, determining sample sizes, Bayes theorem, Bayesian analysis of decisions using sample information and the like. Lapin further teaches a method for finding the

Art Unit: 3623

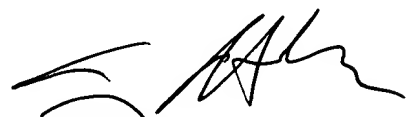
required sample size wherein reliability, confidence, tolerable error and precision are taken into account.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SJ
5/5/2005


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600